

ABSTRACT

A filter element (10) is provided which can be used to remove microsize contaminant particles (*i.e.*, about 0.5 μm to about 25.0 μm) from aviation fuel. The filter element (10) includes a cylindrical pleated filter media (14) and an exoskeleton support structure (16) supporting the filter media (14). The filter media (14) has a pleat density of about eight to about thirteen pleats per inner diameter inch and is formed only from cellulose-fiber-free and woven-mesh-free layers. The exoskeleton support structure (16) is a screen which is thermally bonded to the pleats' peaks in such a manner that the filter media (14) is sufficiently supported without conventional endoskeleton support layers.

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